abcam

Product datasheet

Anti-RED1 antibody ab64830

1 Abreviews 7 References 2 Images

Overview

Product name	Anti-RED1 antibody
Description	Rabbit polyclonal to RED1
Host species	Rabbit
Tested applications	**Suitable for:** ELISA, WB, IHC-P, ICC/IF
Species reactivity	**Reacts with:** Mouse, Human **Predicted to work with:** Rat
Immunogen	Synthetic peptide derived from an internal sequence of human RED1.
General notes	The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at -20°C. Stable for 12 months at -20°C.
Storage buffer	pH: 7.40 Preservative: 0.02% Sodium azide Constituents: PBS, 50% Glycerol (glycerin, glycerine), 0.87% Sodium chloride
Purity	Immunogen affinity purified
Clonality	Polyclonal
Isotype	IgG

Applications

The Abpromise guarantee	Our **Abpromise guarantee** covers the use of ab64830 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
ELISA		Use at an assay dependent concentration.
WB		1/500 - 1/1000. Detects a band of approximately 81 kDa (predicted molecular weight: 81 kDa).
IHC-P		Use at an assay dependent concentration. PubMed: 24608178
ICC/IF	★★★★☆ (1)	Use a concentration of 1 - 5 µg/ml.

Target

Function

Catalyzes the hydrolytic deamination of adenosine to inosine in double-stranded RNA (dsRNA) referred to as A-to-I RNA editing. This may affect gene expression and function in a number of ways that include mRNA translation by changing codons and hence the amino acid sequence of proteins; pre-mRNA splicing by altering splice site recognition sequences; RNA stability by changing sequences involved in nuclease recognition; genetic stability in the case of RNA virus genomes by changing sequences during viral RNA replication; and RNA structure-dependent activities such as microRNA production or targeting or protein-RNA interactions. Can edit both viral and cellular RNAs and can edit RNAs at multiple sites (hyper-editing) or at specific sites (site-specific editing). Its cellular RNA substrates include: bladder cancer-associated protein (BLCAP), neurotransmitter receptors for glutamate (GRIA2 and GRIK2) and serotonin (HTR2C), GABA receptor (GABRA3) and potassium voltage-gated channel (KCNA1). Site-specific RNA editing of transcripts encoding these proteins results in amino acid substitutions which consequently alter their functional activities. Edits GRIA2 at both the Q/R and R/G sites efficiently but converts the adenosine in hotspot1 much less efficiently. Can exert a proviral effect towards human immunodeficiency virus type 1 (HIV-1) and enhances its replication via both an editing-dependent and editing-independent mechanism. The former involves editing of adenosines in the 5'UTR while the latter occurs via suppression of EIF2AK2/PKR activation and function. Can inhibit cell proliferation and migration and can stimulate exocytosis.

Tissue specificity

Highly expressed in brain and heart and at lower levels in placenta. Fair expression in lung, liver and kidney. Detected in brain, heart, kidney, lung and liver (at protein level). Isoform 5 is high expressed in hippocampus and colon. Isoform 5 is expressed in pediatric astrocytomas and the protein has a decreased RNA-editing activity. The decrease in RNA editing correlates with the grade of malignancy of the tumors, with the high grade tumors showing lower editing is seen.

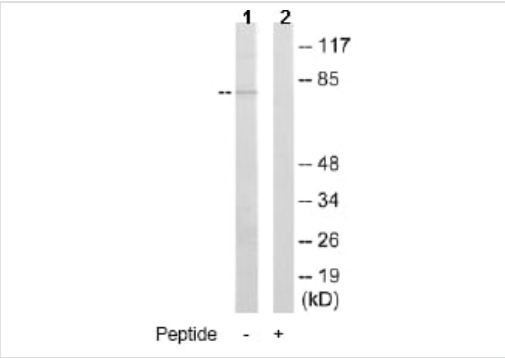
Sequence similarities

Contains 1 A to I editase domain.
Contains 2 DRBM (double-stranded RNA-binding) domains.

Cellular localization

Nucleus. Nucleus > nucleolus. Shuttles between nucleoli and the nucleoplasm.

Images

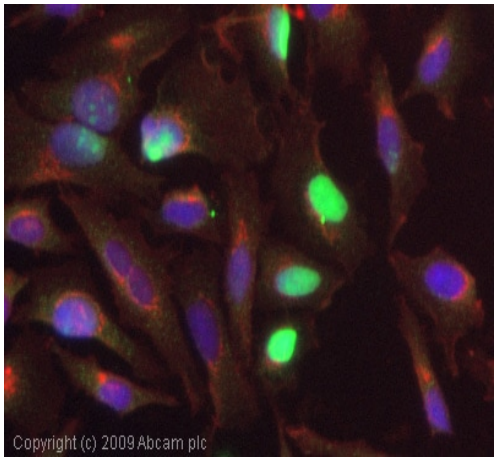


Western blot - Anti-RED1 antibody (ab64830)

All lanes : Anti-RED1 antibody (ab64830) at 1/500 dilution

Lane 1 : HepG2 cell extract (5-30 µg total protein)
Lane 2 : HepG2 cell extract (5-30 µg total protein)) with 5-10 µg of the immunising peptide

Predicted band size: 81 kDa
Observed band size: 81 kDa



Immunocytochemistry/ Immunofluorescence - Anti-RED1 antibody (ab64830)

ICC/IF image of ab64830 stained HeLa cells. The cells were 4% PFA fixed (10 min) and then incubated in 1%BSA / 10% normal goat serum / 0.3M glycine in 0.1% PBS-Tween for 1h to permeabilise the cells and block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab64830, 1µg/ml) overnight at +4°C. The secondary antibody (green) was Alexa Fluor® 488 goat anti-rabbit IgG (H+L) used at a 1/1000 dilution for 1h. Alexa Fluor® 594 WGA was used to label plasma membranes (red) at a 1/200 dilution for 1h. DAPI was used to stain the cell nuclei (blue) at a concentration of 1.43µM.

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